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EXAMINER
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SAVAGE, MATTHEW O

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/783,828

Applicant(s)

FIELDS, WILLIAM MICHAEL

Examiner

Matthew O. Savage

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The structure corresponding with the following "means" has not been adequately defined in the specification:

Ozone generator means, particulate filtering means, electrostatic filter means, and clean water holding tank means recited in claim 1;

Ionizer means and mixing means recited in claim 2;

Intake means recited in claim 8;

Electrode means recited in claim 9;

Automatic backwash means recited in claim 10.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The structure corresponding with the following "means" is considered indefinite since the "means" has not been adequately defined in the specification:

Ozone generator means, particulate filtering means, electrostatic filter means, and clean water holding tank means recited in claim 1;

Ionizer means and mixing means recited in claim 2;

Intake means recited in claim 8;

Electrode means recited in claim 9;

Automatic backwash means recited in claim 10.

The structure recited in claim 2 is considered redundant of the "ozone generator means" recited in claim 1.

The structure recited in claim 3 is considered redundant of the "ionizer means" recited in claim 2;

The structure recited in claim 4 is considered redundant of the "mixing means" recited in claim 2;

The structure of claim 5 is considered redundant of the "particulate filter means" recited in claim 1;

The structure of claims 8-10 is considered redundant of the "electrostatic filter means" recited in claim 1

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '479 in view of Moorehead et al.

With respect to claim 1, Johnson discloses ozone generator means 26 for ozonating a flow of wastewater to remove odors and bacteria, and electrostatic filter means 18 for electrostatically filtering the flow, and clean water holding tank means 10 for storing cleaned water received from the electrostatic filter means for re-use. Johnson fails to specify particulate filtering means for pre-filtering the flow of ozone treated wastewater by separating heavier particulates out of the wastewater. Moorehead et al discloses particulate filtering means 10 for filtering ozone treated wastewater and suggests that such a means also serves to thoroughly mix ozone with the waste water. It would have been obvious to have modified the apparatus of Johnson so as to have included the particulate filtering means 10 as suggested by Moorehead et al in order to provide a means for both removing heavier particulates from the wastewater as well as providing a means for thoroughly mixing ozone with the wastewater.

Concerning claim 2, Johnson discloses the ozone generator means as including an air filter 34 (see FIG. 3 of Johnson '059, incorporated by reference on lines 18-33 of col. 2 of Johnson '479) for mechanically removing particulates from ambient air, ionizer

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means 36 for converting oxygen (see FIG. 3 of Johnson '059), contained in a flow of the filtered ambient air, into ozone to produce ionized, filtered air, and mixing means 24 for injecting said ionized, filtered air into said flow of wastewater to remove odors and bacteria.

Regarding claim 3, Johnson '059 discloses ultraviolet lamp means 36 for exposing the flow of the filtered ambient air to ultraviolet light to convert oxygen contained in a flow of said filtered ambient air into ozone. 4.

As to claim 4, Johnson '479 discloses mixing means including a venturi 24 that creates a pressure differential causing a suction to extract the ozone from the ionizer means and inject the ozone into said flow of wastewater.

Concerning claim 5, Moorehead et al disclose particulate filtering means including a cyclone mixer/cleaner 10 to remove heavier particulates from the flow of ozone treated wastewater.

With respect to claim 11, Johnson '479 discloses a method of reclaiming waste water to remove odors, bacteria and particulates from a flow of wastewater to produce clean water for re-use, including ozonating a flow of wastewater to remove odors and bacteria (e.g., via the ozone generator 28 shown in FIG. 1), electrostatically filtering the flow of pre-filtered wastewater to remove finer particulates (e.g., via electrostatic filter 18), and storing cleaned water received from the step of electrostatic filtering in a holding tank 10 for re-use. Johnson '479 fails to disclose the step of pre-filtering the flow of ozone treated wastewater by separating heavier particulates out of the wastewater. Moorehead et al discloses the step of filtering ozone treated wastewater by separating

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heavier particulates from the waste water (e.g., via filter 10) and suggests that such a step also serves to thoroughly mix ozone with the waste water. It would have been obvious to have modified the apparatus of Johnson so as to have included the step of filtering as suggested by Moorehead et al in order to provide a step for both removing heavier particulates from the wastewater as well as to thoroughly mix the ozone with the wastewater.

Concerning claim 12, Johnson '059, incorporated by reference into Johnson '479, discloses the step of ozone generating including mechanically removing particulates from ambient air (e.g., via filter 34 shown in FIG. 3), converting oxygen, contained in a flow of the filtered ambient air, into ozone in an ozonator apparatus 18 to produce ionized, filtered air, and injecting the ionized, filtered air into the flow of wastewater to remove odors and bacteria (e.g., via venturi 14).

As to claim 13, Johnson '059 discloses the step of converting as including exposing the flow of the filtered ambient air to ultraviolet light to convert oxygen contained in a flow of said filtered ambient air into ozone (e.g., via ultraviolet lamps 36).

Concerning claim 14, Johnson '059 discloses the step of injecting as including the step of creating a pressure differential using a venturi 14 to cause a suction to extract the ozone from the ozonator apparatus and inject the ozone into the flow of wastewater.

Regarding claim 15, Moorehead et al disclose removing heavier particulates from the flow of ozone treated wastewater using a cyclonic mixer/filter.

Claims 6, 7, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '479 in view of Moorehead et al as applied to claims 5 or 15 above and further in view of Lacasse et al.

With respect to claim 6, Johnson '059 suggests a process tank 24 (see FIG. 1) but fails to specify a tank functioning to return the wastewater to atmospheric. Lacasse et al disclose a process tank 240 (see FIG. 7) wherein ozone treated wastewater is returned to atmospheric pressure and teaches that such an arrangement permits the removal of any leftover ozone from the wastewater (see paragraph 128). It would have been obvious to have modified the combination suggested by Johnson and Moorehead et al so as to have included a process tank as suggested by Lacasse et al in order to permit the removal of excess ozone from the water.

Concerning claim 7, Lacasse et al discloses a filter feed pump to mechanically pump ozone treated wastewater out of the process tank and into a filter means (see FIG. 7).

With respect to claim 16, Johnson '059 suggests a process tank 24 but fails to specify returning the ozone treated wastewater to atmospheric pressure in a process tank. Lacasse et al disclose a process tank 240 (see FIG. 7) wherein ozone treated wastewater is returned to atmospheric pressure and teaches that such an arrangement permits the removal of any leftover ozone from the wastewater (see paragraph 128). It would have been obvious to have modified the combination suggested by Johnson and Moorehead et al so as to have included a process tank as suggested by Lacasse et al in order to permit the removal of excess ozone from the water.



Concerning claim 17, Lacasse et al discloses the step of mechanically pumping the ozone treated wastewater out of the process tank to filter the ozone treated water (see FIG. 7).

Claims 8-10, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson '479 in view of Moorehead et al as applied to claim 1 above, and further in view of Roberts et al.

With respect to claim 8, Johnson '479 discloses the electrostatic filter as including a filter tank 70 having input and output ports (see FIG. 5), a layer of glass bead media (see lines 57-59 of col. 5), and intake means 52 connected to the input port for distributing said ozone treated wastewater over the glass bead media to remove fine particulates from the ozone treated wastewater as the ozone treated wastewater flows from said input port to said output port. Johnson fails to specify a layer of gravel distributed in the bottom of the filter tank. Roberts et al discloses that the use a gravel layer to support a particulate filter bed is known in the art (see lines 31-34 of col. 4). It would have been obvious to have modified the combination suggested by Johnson and Moorehead et al so as to have included a layer of gravel as suggested by Roberts et al in order to provide support for the glass bead media.

As to claim 9, Johnson '479 discloses electrode means 74 for applying an electric charge to the glass bead filtering media to cause fine particulates in the flow of pre-filtered wastewater to be electrostatically attracted to the glass bead media.

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With respect to claim 10, Johnson '479 discloses backwash means to clean collected fine particles from the glass bead media to rejuvenate said glass bead media (see the FIG. 5 and the last full paragraph of col. 7). Johnson fails to specify the backwash means as being automatic, however, providing an automatic means to replace a manual activity is not considered sufficient to distinguish over the prior art (see *In re Venner*, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958)).

With respect to claim 18, Johnson '479 discloses the step of electrostatically filtering including generating a flow of the ozone treated wastewater into a filter tank 30 having input and output ports (see FIG. 5), and providing a layer of glass bead media overlaying the intake connected to the input port for distributing the ozone treated wastewater over the glass bead media to remove fine particulates from the ozone treated wastewater as the ozone treated wastewater flows from the input port to the output port. Johnson fails to specify a layer of gravel distributed in the bottom of the filter tank. Roberts et al discloses that the use a gravel layer to support a particulate filter bed is known in the art (see lines 31-34 of col. 4). It would have been obvious to have modified the combination suggested by Johnson and Moorehead et al so as to have included a layer of gravel as suggested by Roberts et al in order to provide support for the glass bead media.

As to claim 19, Johnson '479 discloses the step of applying an electric charge to the glass bead filtering media to cause fine particulates in the flow of pre-filtered wastewater to be electrostatically attracted to the glass bead media (e.g., via electrode assembly 74)

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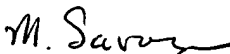
With respect to claim 20, Johnson '479 discloses the step of backwashing the media to clean collected fine particles from the glass bead media to rejuvenate said glass bead media (see the FIG. 5 and the last full paragraph of col. 7). Johnson fails to specify the backwashing as being automatic, however, providing an automatic step to replace a manual activity is not considered sufficient to distinguish over the prior art (see *In re Venner*, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958)).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew O. Savage whose telephone number is (571) 272-1146. The examiner can normally be reached on Monday-Friday, 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Matthew O Savage  
Primary Examiner  
Art Unit 1724

mos  
June 13, 2005